

Study of the Effect of Different Concentrations of *Solanum torvum* on *Staphylococcus aureus*

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Acne is a chronic, inflammatory, skin condition that causes spots and pimples, which manifest mostly on the face. It affects nearly 80% of adolescents and young adults (NCBI). One of the many bacteria associated with this condition is *Staphylococcus aureus*. With no solutions available without secondary effects, acne tends to lower self-esteem, and sometimes it leads to depression (WebMD). One natural remedy for acne used by the Zapotec civilization (Mexico) was *Solanum torvum*, also known as turkey-berry. It was used to treat pimples, rash, and itch (Zapotec Natural History). Several claim that *Solanum torvum* has antibacterial properties against *Staphylococcus aureus* (Sivapriya, M). The objective of this research was to establish the antibacterial properties of *Solanum torvum* using two methods: Kirby-Bauer (disk diffusion test) and Real time Cell Growth Logger (RTS-1C). Results on both methods demonstrated that *Solanum torvum* does not have the ability to kill *Staphylococcus aureus*. The Kirby-Bauer test proved *Solanum torvum* as an ineffective antibacterial solution; bacteria were resistant to it: zone of inhibition was 0 mm for all concentrations. Real time Cell Growth Logger results do not show any reduction activity in the optical density of the different concentrations. This research demonstrates that *Solanum torvum* has no antibacterial properties against *Staphylococcus aureus*. This leads to the assumption that *Solanum torvum* may reduce acne because it could be acting as a steroid. Another phase will be done to determine the extent of the anti-inflammatory properties of *Solanum torvum* by utilizing prostaglandins as markers for present inflammation activity.

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